Alg. 2 Warm Up #1-4 Solve:

1. $40x - 5x^2 - 35 > 0$

2. $|8x - 14| < 18$

3. $3|x - 7| \geq 24$

from yesterday's homework:

5. At a college bookstore, Carla purchased a math textbook and a novel that cost a total of \$54. If the price of the math textbook is \$8 more than 3 times the price of the novel, what is the price of each book? Specifically identify the variables, write a system of equations then solve.

Let m = The price in \$ of a math textbook

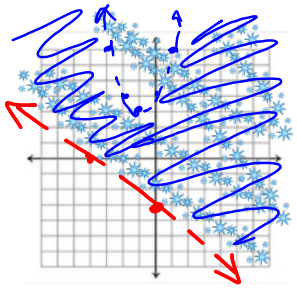
Let n = The price in \$ of a novel

$$\begin{cases} m + n = 54 \\ m = 8 + 3n \end{cases}$$

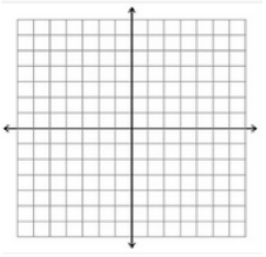
Alg. 2B Ch 4 Homework #2 Name Team Per

1. Graph the inequality or system of inequalities. Shade the solution region.

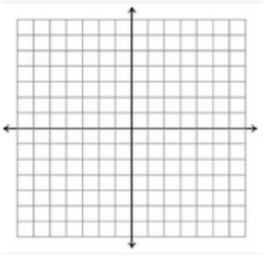
a. $3x + 4y > -12$
$y < (x+1)^2 + 3$



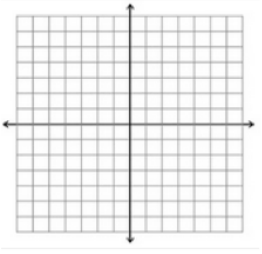
b. $y \leq \frac{1}{2}|x-3|$
$y \leq -(x-3)^2 + 6$



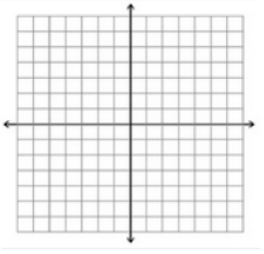
c. $x \geq -3$
$y < (x+4)^2 - 2$



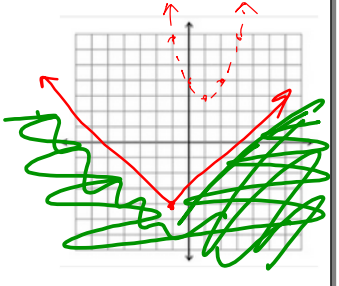
d. $y > |x+2| - 1$
$y \leq 3$



e. $y > -|x-3| + 5$
$y \geq \frac{2}{3}x + 1$



e. $y \leq |x+1| - 5$
$y < (x-1)^2 + 3$



2. Simplify each expression.

a. $\frac{12x^0y^{-6}}{(2x^3y)^{-2}}$

$\frac{12(1)(2x^3y)^2}{y^6}$

$\frac{12 \cdot 4x^6y^2}{y^6}$

$\frac{48x^6}{y^4}$

b. $\frac{2y^5}{36xy^4} * \frac{6(x^4)^3}{(x^{-3})^2}$

$\frac{y}{18x^1} \cdot \frac{6x^{12}}{x^{-6}}$ (x6)

$\frac{yx^{18}}{3x^1}$

$\frac{x^{17}y}{3}$

c. $\frac{36a^{-2}b^3}{a^5b^{-2}} \div \frac{4a^{-2}b^6}{b^4}$

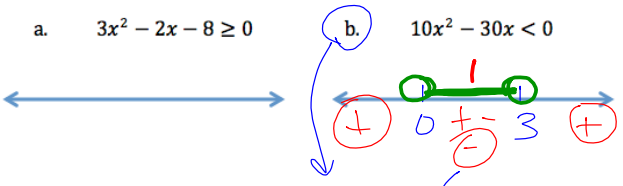
$\frac{36b^5}{a^7} \cdot \frac{b^4a^2}{4a^{-2}b^6}$

$\frac{9b^3}{a^5}$

3. Find the critical numbers (boundary points) using the zero product property, then use a number line test to solve the inequality.

a. $3x^2 - 2x - 8 \geq 0$

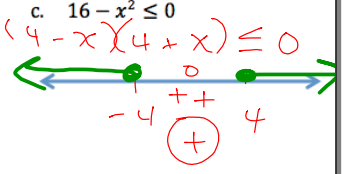
b. $10x^2 - 30x < 0$



$10x(x-3) < 0$

c. $16 - x^2 \leq 0$

$(4-x)(4+x) \leq 0$



$x \leq -4$ or $x \geq 4$

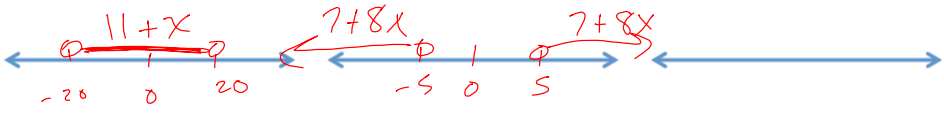
$0 < x < 3$

4. Use the meaning of absolute value to set up each problem on a number line, then write the compound inequality and solve.

a. $|11 + x| < 20$

b. $|7 + 8x| > 5$

c. $|3x + 6| \leq 12$



$-20 < 11 + x < 20$

$-11 \quad -11 \quad -11$

$-31 < x < 9$

5. Solve the systems of equations below. Then, describe what the solution would look like on a graph.

a. $7x + 2y = -3$)3
$-21x - 6y = -9$

$21x + 6y = -9$

$0 + 0 \neq -18$

No Solution

The lines are parallel

b. $-6 + 5y = 4$
$7x - 10y = -8$

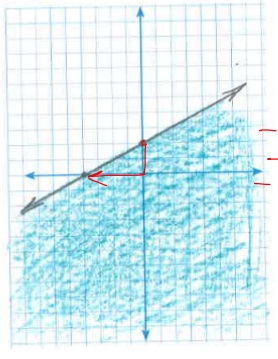
$\left(\frac{12}{7}, 2\right)$

Classwork:

Alg 2B Classwork Name _____

Write an inequality for each graph. Team ____ Per. ____

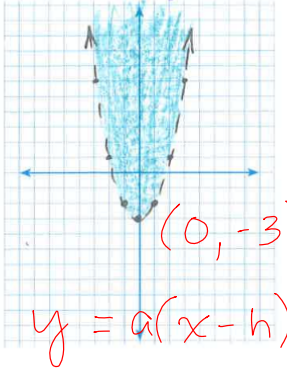
1.



$\frac{-2}{-4}$

$y \leq \frac{1}{2}x + 2$

2.

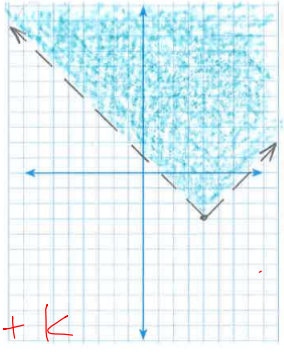


(0, -3)

$y = a(x-h)^2 + k$

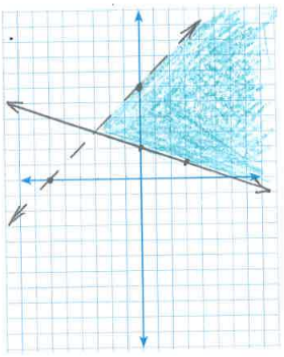
$y > x^2 - 3$

3.

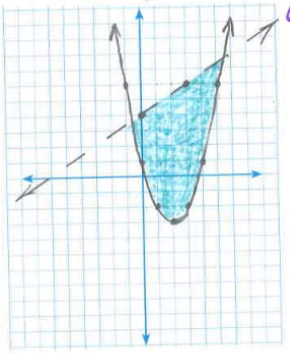


Write a system of inequalities for each graph.

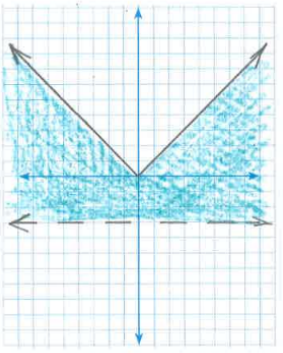
4.



5.



6.



Week 1 Classwork

Warm Up on top

Graphing Inequalities

Writing Inequalities from a graph

*Classwork packet will be turned in tomorrow.

HW: Ch 4
Homework WS #3

Short Quiz Tuesday:

Solving Quadratic Inequalities

and Absolute Value Inequalities.